A1 concl.

portions having a positive slope and the other one of the first and second absolute value independent time-varying portions having a negative slope.--

REMARKS

The abstract is objected to because it exceeds 150 words. In response thereto, Applicants have amended the abstract to be in the proper format.

Claims 17-20, 22-25, and 27 are rejected under 35 USC §102(b) as being anticipated by Pietz-Kirsch, U.S. 5,053,869.

Independent claims 17, 19, and 20 recite one of the first and second absolute value independent time-varying portions having a positive slope and the other one of the first and second absolute value independent time varying portions having a negative slope. The Examiner asserts that the Pletz-Kirsch '869 anticipates this aforementioned limitation. Applicants respectfully disagree with the Examiner on this point.

Pletz-Kirsch '869 describes a digital circuit detecting horizontal or vertical synchronizing pulses in a digital video signal. The video signal is applied to a level detector, which supplies an extreme value signal that indicates the level of the synchronizing pulse at the end of a time interval. The extreme value signal represents the extreme value of the signal, which has hitherto occurred in time interval equal the time between two consecutive synchronizing pulses.

In particular, in each period between two consecutive synchronizing pulses a new time interval is started at a predetermined instant outside the blanking interval. In order to generate

a comparison signal, the extreme value is continuously reduced by a predetermined amount. The comparison signal and the digital video signal delayed by several sample clock periods are applied to a comparator 27 which supplies a synchronizing signal during those periods when the amplitude level of the delayed video signal is higher than the level of the comparison signal.

However, Pletz-Kirsch '869 does not teach or suggest the claimed predetermined sequence having a first and second absolute value independent time-varying portion and a first and second absolute value independent non-time varying portion. Pletz-Kirsch '869 describes using the comparator 27 to supply an output signal during those periods in which the delayed video signal has a higher level than the comparison signal applied to its first input. Pletz-Kirsch '869 does not require predetermining a sequence for detecting a particular pulse.

In Pletz-Kirsch '869, the sole requirement in producing a synchronization pulse is that the delayed signal has a higher level than the comparison signal, and not that the input signal has a particular sequence, especially a sequence including various absolute value independent time-varying portions and non-time varying portions. Furthermore, the comparator 27 does not require that its synchronized signal have a slope requirement for various portions of the signal, so that the synchronized signal has a predetermined sequence. Therefore, Pletz-Kirsch '869 does not anticipate claims 17 and 19.

As to claim 18, it is dependent on claim 17. Therefore, claim 18 is also allowable for the same reasons argued with respect to claim 17.

Independent claims 22, 23, 24, and 25 recite determining an absolute value independent time-varying properties of an input signal having a synchronization pulse. In contrast, Pletz-Kirsch '869 teaches that the comparison signal and the digital video signal delayed by several sample clock periods are applied to a comparator which supplies a synchronizing signal during those periods when the amplitude level of the delayed video signal is higher than the level of the comparison signal. Further, the sole requirement in producing a synchronization pulse is that the delayed signal has a higher level than the comparison signal. Pletz-Kirsch '869 does not suggest determining the absolute value independent time varying properties of an input signal. Pletz-Kirsch '869 does not use an absolute value operation in any of its analysis regarding the synchronized signal. Therefore, Pletz-Kirsch '869 does not anticipate claims 22-25.

Independent claim 27 recites a waveform characteristic detector for producing a detection signal in response to a comparison between actual absolute value independent time variations in the input signal and a predetermined absolute value independent time variations criterion representative of one of the portions of the synchronization pulse. In contrast, Pletz-Kirsch '869 describes using an inverter 2 for inverting an input signal from the low pass filter 2, and an inverter 23, whose output is provided to a second input of the adder 21. The comparator 3 performs a comparison between the inverted signal from the inverter 2 and the signal present in register 5. Depending on whether the output signal of register 5 or the video signal, which is just present, is larger, the register 5 is charged with the video signal or with its output signal. The register 5 is only charged with a new value of the video signal, if this

signal has a larger value than the output signal, which is the last to be stored in the register 5. As discussed hereinbefore, the comparator 27 supplies an output signal during those periods, when the delayed video signal is at a higher level than the comparison signal. The output signal of the comparator 27 is synchronized at the sample clock by means of the register 35.

Pletz-Kirsch '869 does not teach or suggest that the inverter or comparators 3 and 27 provide the necessary means of detecting a synchronization pulse within an input signal, where the synchronization pulse having an absolute value independent non-time varying portion followed by an absolute value independent time-varying portion. Furthermore, the comparators 3 and 27 do not provide a detection signal in response to a comparison between an actual absolute value independent time variations in the input signal and a predetermined absolute value independent time-varying criterion of one of the portions. Therefore, Pletz-Kirsch '869 does not anticipate claim 27.

Claims 21, 26, and 28 are rejected under 35 USC §103 as being obvious over Pletz-Kirsch '869 in view of Narusawa, U.S. 4,792,852.

Independent claim 26 recites a pulse having a substantially absolute value independent non-time varying portion and a substantially absolute value independent time varying portion of the input signal. Independent claim 28 recites an absolute value detector responsive to samples of the input signal for separating a substantially absolute value independent non-time varying portion of the input signal from a substantially absolute value independent time varying portion of the input signal. In addition, claim 21 is dependent on claim 20, and incorporates the limitations of claim 20.

As described heretofore, Pletz-Kirsch '869 does not teach or suggest the substantially absolute value independent non-time varying portion and the substantially absolute value independent time-varying portion. Narusawa '522 is not used to teach or suggest issues regarding the substantially absolute value independent non-time varying portion and the substantially absolute value independent time-varying portion. Therefore, proposed combination of Pletz-Kirsch '869 and Nasurawa '522 does not teach or suggest the limitations of claim 26.

In view of the above amendments and for all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejections made under 35 U.S.C. §§ 102 and 103. Accordingly, an early indication of allowability is earnestly solicited.

If the Examiner has any questions regarding matters pending in this application, please contact Applicants' undersigned representative.

Please note that Applicant has provided a marked-up copy of the amended abstract herewith.

Respectfully submitted,

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MARKED-UP VERSION

The abstract on page 43, line 3 has been amended as follows:

~~A synchronization pulse detector for detecting a synchronization pulse within an input signal. The input signal has "level" portions (i.e., substantially non-time varying portions) and "transition" portions (i.e., substantially time varying portions). The pulse detector includes a pulse shape detector for determining each time the input signal has a sequence of a first "level" portion, followed by a first "transition" portion, followed by a second "level" portion, followed by a second "transition" portion followed by a third "level" portion, one of the first and second "transition" portions being positive and the other one of the first and second "transition" portions being negative. Each time such sequence is determined a pulse_shape detected pulse is produced. An evaluator is provided to reject invalid pulse-shape detected pulses. In one embodiment, the input signal is a video signal and the evaluator includes a time window for determining whether such shape_detected pulses are produced at a predetermined rate expected for the series of synchronization pulses. The evaluator includes a voltage window responsive to the produced shape_detected pulses and their associated values of the second "level" portions for determining whether one of such produced second "level" portions is substantially the same as or lower but not higher than the lowest DC value recorded during the time-equivalent of one line of video. The evaluator may include both the time window and the voltage window. The voltage window is mainly used to acquire an initial lock to an unknown and not yet clamped video signal.~~

A synchronization pulse detector includes an absolute value independent shape detector for processing samples of an input signal having a synchronization pulse and a

plurality of non-synchronization pulses to determine whether such samples have a predetermined sequence. The predetermined sequence includes a first and second absolute value independent time-varying portions and a first and second absolute value independent non-time varying portions. One of the first and second absolute value independent time-varying portions having a positive slope and the other one of the first and second absolute value independent time-varying portions having a negative slope.